NOVEMBER VOL. XII NO. II 25c

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R. M. SHARP DENTAL LABORATORY
224 South Fourth Avenue
ANN ARBOR, MICHIGAN
Phone 2-1111

Who started Thanksgiving?

Dear Doctor,

We're talking about the famous American Holiday!

In 1863, at the urging of a Mrs. Sarah J. Hale, editor of Godey's Lady's Book, President Abraham Lincoln issued a National Proclamation.

Thanksgiving was officially declared a national holiday by Lincoln.

President Franklin D. Roosevelt signed an act of Congress in 1941 which made the fourth Thursday in November Thanksgiving Day.

Days of thanks have been proclaimed since ancient times. Our Thanksgiving is more than a national hoilday. It is a symbol of our way of life.

We would like to wish you a very happy Thanksgiving.

Sincerely yours,

H. T. Hall

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EDITOR, Joseph Strack

CONTRIBUTING EDITORS
Arthur H. Levine, D.D.S.
Joseph Murray, D.D.S.

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Osteodystrophia Fibrosa: Its Relation to Prosthodontics

by Frank H. McKevitt, D.D.S.

Cases of osteodystrophia fibrosa involving the alveolar process of the maxillae are characterized by a complete atrophy of its osseous tissue and the retention of its soft tissue integument which becomes hypertrophied.

It has its incipiency in the maxillary tuberosity areas and assumes grotesque forms that eventually reach the superior border of the body of the mandible. This vertical and lingual development occurs bilaterally and at times fills the vault of the palatal arch to deprive the tongue of its normal space. It also decreases the height of the interalveolar space while the teeth are present. Where artificial dentures are required, surgical interference is necessary to recapture the correct height of the bite. Although of rare occurrence, it occasionally forms in the mandible where it begins in the retromolar areas and gradually extends lingually and labially as far forward as the distal surface of the mandibular first molar in a wedge-shaped formation. Its elevation is limited to the elevation of the occlusal surfaces of the molar teeth.

The diverse forms osteodystrophia fibrosa takes are clearly revealed on pre-extraction casts.

Roentgenographically the hypertrophied soft tissue offers no resistance to the passage of the light rays. It does, however, record a nebulous and amorphous form without any indication of a limiting boundary as in Figs. 7 and 9.

In this presentation its progressive growth will be described on casts of the maxillae of different patients, whose ages range from twenty-two to seventy-five years.

In the edentulous and partially edentulous state, osteodystrophia fibrosa has a deleterious effect on full and partial restorations unless it is removed surgically.

Interpretation by X-Ray and Study Casts

Study cast interpretation has not, in the main, kept pace with advances in roentgenologic interpretation and diagnosis of osteodystrophia fibrosa. This lack has become a major factor in prosthodontic failures. Dominant features of pre-extraction cast

FIG. 1

A roentgenologic study of normal alveolar bone of a patient 36 years of age. Showing extant height of alveolar ridge crests for comparison with Figs. 2 and 3.

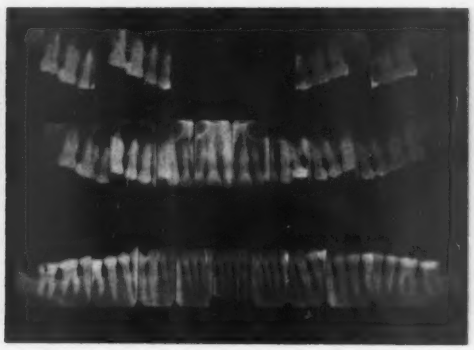


FIG. 2

A roentgenologic study of alveolar bone of a patient also 36 years of age. Atrophic changes accompanying disease processes. The interalveolar space is increasing in height while teeth are still present.

FIG. 3

A roentgenologic study of diseased a bone in a patient aged 50 years. The bo level has reached the apices of the m incisor root tips from its original eleva the tooth cervices. The distance betwe ridge crests is now the extant vertical di to be recaptured when the teeth are lost.

diagnosis are recorded in the morphology of the ridges of the edentulous casts. These deviations from the normal have an unwholesome influence upon the recovery of the correct height of the extant interalveolar space and the occlusal plane. To elucidate: *Increases* in the height of the interalveolar space are plainly revealed in roentgenograms which the casual observer may notice, as in Figs. 1, 2, and 3, and which are submitted for comparison indicating *decreases* in the height of the interalveolar space, the action of which is insidious.

The following illustrations will depict casts of the maxillae showing osteodystrophia fibrosa from its incipiency to its final developmental stage in senility.

In Fig. 4 the central cast is of a patient twenty-two years of age. The osteodystrophia fibrosa has begun in the right and left sides of the maxillae in the retromolar areas. On the right side it has progressed to the distal surface of the first molar; on the left it has extended to the distal surface of the left second molar. In these casts of osteodystrophia fibrosa the hypertrophy seems to take a fixed lingual direction rather than a buccal course. Its elevation is limited to the height of the occlusal surfaces of the molar teeth in situ. The cast on the lower left shows the maxillary molar teeth in malalignment as a result of intermittent pressures during the calcium deficiency state. The osteodystrophia fibrosa has progressed to the distal surface of the maxillary left first bicuspid. The right side shows the loss of a molar tooth.

It should be observed that the dystrophy seems to be inhibited at the site of an extraction as it also has on the lower right cast where lost teeth were replaced by bridges.

It will be noted that the maxillary molar teeth on the right side of this cast are in malalignment and the ostedystrophy continues to develop.

Casts in Fig. 5 showing stages of progressive osteodystrophia fibrosa in patients of advancing years. Their ages range from forty-five to fifty and fifty-five years. The same physical characteristics prevail in all these cases and renders their identity positive.

The casts in Fig. 6 indicate the progressive stages of osteodystrophia fibrosa from the age of fifty to that of seventy-five years in different patients. When old age enters, the ridges take a biscuit-like form that fills the vault of the arch and deprives the tongue of its normal space as it is evidenced on the lower casts. Its insidious action decreases the height of the interalveolar space, the ultimate forms they take present a problem to the prosthodontist and exodontist, a condition that is exemplified in Fig. 7.

Here the casts accompany the roentgenograms, the one supplementing the other. They present an unanswerable argument in favor of complete roentgenograms and detailed pre-extraction casts as diagnostic aids in prosthodontics.

In the films the soft tissue hypertrophy offers no resistance to the passage of the light rays. It did, however, record a nebulous and amorphous form with an undefined limiting boundary. In the film upper left the enamel cap of the mandibular molar and its relation to the hypertrophied tuberosity is well defined. Because of this bilateral osteodystrophy surgical intervention was required to make room for adequate maxillary and mandibular prosthetic pieces.

Fig. 8. The casts here are of the same patient. They present a palatal view of the maxillae; a right

bucco-labial view of the maxillae and mandible with a unilateral osteodystrophia fibrosa in the tuberosity area as an impediment to restorative procedures in both jaws. The casts lower right show an attempt at such a restoration and the futility of such an effort. It is impossible to diagnose and prognose cases of this kind without pre-extraction casts.

Fig. 9 presents the maxillary cast with accompanying complete roentgenograms of a case of maxillary osteodystrophia fibrosa.

The films of the tuberosity areas show the typical nebulous and amorphous forms the maxillary ridges present roentgenographically.

There is no well-defined limiting boundary. The osseo-atrophic action has extended to the floor of the nose leaving a serrated ridgecrest which should be smoothed with a bone file. The soft tissue remnant of the original ridge can be moved digitally from one tuberosity to the other. While the osteodystrophia fibrosa was induced by a calcium deficiency state it was further aggravated by the presence of the anterior mandibular teeth. Radical surgery is indicated in these cases. Here the prosthodontic problem involves the recapture of the correct plane of occlusion and the correct height of the bite.

Bulbous Tuberosities

Fig. 10. These bulbous tuberosities are shown for purposes of comparison with cases of osteodystrophia fibrosa. Their developmental growth proceeds buccally. They contain cancellous bone in a state of disintegration which yields readily to curettage. The undercuts they present militate against successful prosthesis.

In the early state the process at times extends buccally from tuberosity to tuberosity and contains bone in contrast with osteodystrophia fibrosa which is limited to a lingual development and which has no bony matrix whatever. These bulbous tuberosities occur unilaterally and bilaterally. They present undercuts that should be reduced surgically. Their presence decreases the height of the interalveolar space.

The Surgical Treatment of Osteodystrophia Fibrosa

Fig. 11. The central and lower left casts indicate osteodystrophia fibrosa. The pathognomonic signs appearing on the casts supplement roentgenologic findings. The dominant thought here is the surgical preparation of the ridge and the correct recapture of the occlusal plane and the heights of the interalveolar space.

The lower casts are the pre- and post-operative casts of the same patient.

The penciled markings indicate the line of the incision which had extended from one tuberosity to the other. The underlying soft tissue is reduced from within, without disturbing the pink integument until the flaps are to be trimmed. The ridgecrest is smoothed and the entire arch is reshaped in the cast on the lower right. An inverted V-shaped section is removed from the distal side of the tuberosity to avoid a buttonhole formation when the flaps are approximated. The tissue responds gratefully to operative procedures and heals in from six to eight weeks.

Osteodystrophia fibrosa as a prosthodontic surgical entity differs radically from common alveo-

FIG. 4

...are of patients ranging in ... 22 to 42 years. ...pper cast shows osteody... ...in its incipient stage following ...tion of the maxillary third ... few years earlier. The lower ... of different patients with ... 10 years apart.

FIG. 5

Here, the casts indicate a calcium deficiency state and warrant intelligent cooperation with internists. The patients were in the same age bracket, 45 to 55 years. Cast interpretation and roentgenographic study should be inseparable in these cases.

FIG. 6

Stages of osteodystrophia fibrosa occuring late in life. From the 50th to the 75th year.

FIG. 7

An intermediate stage of osteodystrophia fibrosa. Here the height of the interalveolar space has been decreased in the molar areas. The maxillary tuberosities have descended to the superior border of the mandible. Surgical interference is indicated.

lectomy. Because of a complete atrophy of the osseous tissue comprising the alveolar process and the retention of the soft tissue integument which undergoes hypertrophy, this mass of white fibrous tissue takes many amorphous forms and is highly resistant to instrumentation when incised.

It surmounts a serrated remnant of the alveolar ridge crest which must be smoothed with a bone file. The mass of tissue must be reduced and reshaped in conformity with prosthodontic requirements. The surgical technique may be of interest.

The operation of the maxillae is divided into halves. A vertical incision is made in the labial surface at the median line and continued laterally on the ridge crest to the distal surface of the maxillary tuberosity. The tissue is elevated and the ridge crest exposed to view as far as the bicuspid area and the bony remnant of the process is dressed with the bone file. From this point on the pear-shaped form is reduced to its required bucco-lingual dimension by excising wedge-shaped sections from the mass. These are removed from within, without disturbing the pink integument. This removal facilitates elevation of the buccal and lingual flaps which must be retracted to expose the ridge crest to its terminal at the distal side of the maxillary tuberosity.

This section of the bony ridge crest is now smoothed. The distal ends of the flaps are sectioned in a V-shaped form to permit of approximation of the flaps, which are now trimmed for the vertical dimension required.

The same procedure is followed on the opposite side. The flaps are tacked with dermal and drainage is maintained in conformity with surgical principles. The April 1953 issue of TIC depicts a typical case of osteodystrophia fibrosa as it is revealed on study casts and its role as a factor in decreasing the height of the interalveolar space.

FIG. 11

The lower casts are pre- and post-operative of the same patient. The cast on the lower right shows the scar line on the left ridge crest, and also on the right; the elimination of a button hole-like scar formation in the tuberosity areas was effected by excising a "V" form to permit easy approximation of the flaps.

FIG. 8

Casts of the same patient with unsuccessful prosthetic maxillary prosthetic piece in situ. Figs. 7 and 8 do not differ in character but only in degree. The reason for prosethetic failures in both instances are obvious.

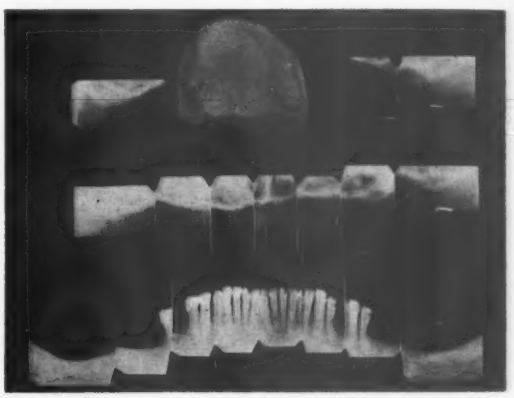


FIG. 9

Illustrates one of the grotesque forms the maxillary ridges take in osteodystrophia fibrosa, and the need for a positive surgical approach if prosthodontic procedures are to be successful. It further emphasizes the need for the reestablishment of the correct height of the interalveolar space and the correct plane of occlusion in prosthodontics.

FIG. 10

Bulbous tuberosities differ from cases of osteodystrophia fibrosa in that they develop buccally and retain their calcium content longer. They do decrease the height of the interalveolar space.

The Mirror

by Margaret Anderson, Dental Assistant

As a matter of fact, if Doctor weren't the kind of man who saves everything from last year's sweepstakes ticket to old pieces of string, none of this would have happened in the first place. The mirror had been stored in a closet for several months, but his wife didn't want it at home and he wouldn't let me throw it out—so I hung it in the lab.

It seemed like a good idea at the time, because it was the only place in the entire office where Doctor could comb his hair without being seen by patients—and he was delighted that I had thought of it.

It wasn't a very kind mirror. Not at all like the one surrounded by soft, dim lights in the powder room, for example; but it was only for Doctor's hair, so its lack of kindness didn't seem important anyway.

Even so, I couldn't seem to avoid it. Whenever I walked by the thing I looked at it, and everytime it stared right back giving me the shock of my life. It was the first mirror I had ever seen which actually made me look my age—and finally made me do something about it.

I got a hair-cut, the first one in ten years—one of those short, youthful things—and invested dollars in one of those "over thirty" skin creams.

Unfortuately, though I looked almost the same in the mirror on the lab wall, I didn't look the same in Doctor's eyes. He didn't like it and didn't hesitate to tell me so. I didn't relish what he said, and we didn't get along so well anymore.

Then I began to notice that he was spending more and more time in the lab. Every time I happened to go in he would be standing before the mirror carefully scrutinizing his face. "I don't think I look very well," he would say, as he turned toward me.

As the days went by he started going back into his life, back three years to the time he had virus X (or whatever it was called that particular year), remarking on how sick he had been and how he had really never felt the same since. "I don't think I ever fully recovered from it," he would say to the mirror with real concern. He started talking "vacation," although it was still early spring, and we never took our vacations until September.

Along about this time, I was seriously considering taking a long leave of absence and joining a friend in Hawaii because she kept writing, "This is the lazy life!" I hated the thought of going to work because Doctor wasn't fun anymore—he was even beginning to look sick—and because going to work meant getting ready for it, which seemed to take up all my time. Every night was just one long struggle with pin curls in vain efforts to make my hair look neat enough for Doctor's approval the next morning, and though I hadn't mentioned it to anyone, I was sure the "over thirty" cream was growing a light fuzz on my cheeks.

When I couldn't take it anymore, I told Doctor of my plans. "Sure, walk out on me now," he said. "Just when I'm about to crack up myself. Go ahead—have fun for yourself. Don't think about me!"

I felt very sad, too. I didn't really want to go. All I wanted was for things to be like they used to be—a happy office, a happy Doctor, and a happy me.

A little later that day I looked hard and long at Doctor as he stood before the mirror again. I watched as he closed his eyes, shook his head hopelessly and slowly walked away.

"That damned mirror!" I muttered to myself.

The next morning I got to the office especially early, and when Doctor arrived he found, not the mirror, but two gaping holes in the plaster of the lab wall.

"Where is it?" he asked.

"I gave it to the janitor," I replied.

Doctor now has a small mirror standing on one of the shelves in the closet of his private office. The light is soft and dim there.

I have gone back to the mirror in the powder room. I am letting my hair grow, and have discontinued the "over thirty" cream.

Once more we plan our vacations in September.

DRY GAG

A patient's teeth in disrepair

May make the dentist want to swear,

And, after making his oral exam,

He still may use a rubber dam!

by Barbara Becker

Dental Wives

THANK YOU, DOCTOR!

by Kay Lipke Warren

This month, by American tradition and by presidential decree, we pause to give thanks.

For all too brief a period we turn our backs on what is wrong with our lives, our nation, and the world at large, and allow ourselves the luxury of surrender to the warm emotion of gratitude for all that is right, and everything we hope and dream and pray for in the years to come.

And what do we find to be grateful for? There are many important, individual reasons for gratitude, of course. However, we women who are married to dentists find quite a number of special things we like about being dental wives. We think of these things at odd moments with a surge of pride and happiness; but more often than not, our husbands never hear of them.

So, girls, why don't we break down and tell them now? There is a chance it might mean more than the turkey we will roast, or the pies we will bake. After all, Thanksgiving is more than a day and a dinner. It is a state of mind, and of heart, and of spirit.

"What do you like about being married to a dentist?"

During the past year we have asked this question of dental wives wherever we have found them. The answers have been many and revealing. Here are a few of them:

> I like being married to a dentist because my husband has gained such broad understanding through meeting a cross section of people in his profession. He is aware of what is going on economically and politically, and I am astonished at his knowledge of things quite out of his own field. Some of this knowledge rubs off on me. Many times we have taken a far more active part politically than we would otherwise, because of my husband's wide interest in public affairs gained through his contact with his patients.

Another wife says:

> I like the security of being a dentist's wife. I am glad he works for himself and isn't shoved around by someone in a position over him. It gives him stature, I think, to have his own office and to be able to make all his own decisions. I am proud of the "Dr." in front of his name. I like the feeling that he is contributing to the better health of the community where we live.

And still another remarks:

> It thrills me to meet my husband's patients and to hear their gratitude for his work. He is rendering a fine service and, somehow, by doing my part, I feel that I am contributing to that service. It makes me very proud.

Finally:

> My husband is a Rock of Gibraltar when the children are ill, or show symptoms of being ill. His medical knowledge helps, and his sureness and patience with the children gives confidence to us all.

And what of the other side of the picture? What don't dental wives like? Well, apparently there are very few things. In fact, they seem to fit into a single, general complaint: Dentists who are deeply immersed in dental organization affairs sometimes are inclined to forget their own families; in the interest of the larger problem of dental health, they leave to their wives the responsibility of bringing up their own children.

One wife expresses it like this: "I like everything about being married to a dentist except my husband's overwhelming absorption in dentistry. I have had to be both father and mother to our children during their important growing years."

However, even wives spontaneously proclaim their pride in being married to dentists. In fact, to a woman all of us are proud—and are grateful.

We say, thank you, Doctor, for having a sense of humor left over after long hours dealing with nervous human beings in your office, and being able to bring home to us a few laughs gleaned from the hard work of your day.

Thank you for your patience when things do not move smoothly at home, and for accepting, without comment, our not always immaculate housekeeping when you are accustomed to the spotless gleam of equipment in your office.

Thank you for the fine service you are performing for the better health of the community.

Thank you for looking beyond our graying hair, our growing wrinkles, and our thickening waistline, and still managing to see your young love.

For all these reasons, and many, many more, we say to you this November in 1953, thank you, Doctor. (Thank you, dear.)

No Grounds for Desertion

The women in a dentist's life
Consist of more than just his wife;
Many a lady in his chair
He might consider more than fair,
Could he but scrutinize her face
With features in the proper place.
But, since he's never seen them thus,
He finds his wife still grade A plus!

Ethel Willis Hewitt

ANGLES AND IMPRESSIONS

by Mauice J. Teitelbaum, D.D.S.

Dental Thisa and Data:

One of America's leading dental equipment manufacturing companies is considering marketing a new aid to painless drilling. Next year they may bring out an accessory unit that blows cold air on the tooth at a temperature that is low enough to anesthetize the tooth against pain. Tests are still being conducted to determine whether the lowering of the temperature is completely safe or whether, in due time, it causes death of the pulp. If tests are successful and the "refrigerated" unit reaches the market, look for it to sell well over $500. Despite continued entrenched opposition in some quarters against fluorinated water, bouquets were thrown at fluorides in water by Doctor Leonard Scheele, surgeon general of the U. S. Public Health Service, who told *Chemical World* that "time will prove that this single discovery and development has been one of the greatest contributions to human health." . . . According to Doctors Baume, Evans and Becks of the University of California, the growth hormone chemical from the the pituary gland and thyroxin from the thyroid gland cause teeth to erupt. The pituary provides growth but the thyroxin is needed to make them erupt. Substantiating their findings, an eighteen-year-old youth with decidious teeth was found to have a mild thyroid deficiency. After thyroid hormone treatment, the permanent teeth erupted.

"DON'T STOP HERE—INSTEAD OF CANDY, HE GIVES YA A LECTURE!"

Inci-dentals

Firsts in Dental Publications Dept.: The first book on dentistry, strictly American, was Richard Skinner's *A Treatise on the Human Teeth, Concisely Explaining Their Structure and Cause of Disease and Decay.* Published in 1801 it was practically a "pocket" book, containing twenty-six pages and selling for 30 cents. However, the first really popular book on dentistry appeared twenty-one years later. It was Josiah Flagg's *The Family Dentist; Containing a Brief Description of the Structures, Formation, Diseases and Treatment of Human Teeth.* Flagg is generally considered to be the first native-born American dentist. He started practicing in Boston, Mass., at the age of eighteen. According to Charles Koch in *History of Dental Surgery,* in 1785 Flagg advertised as follows:

> Dr. Flagg transplants teeth, cures ulcers and eases them from pain without drawing; fastens those that are loose; mends teeth with foil or gold to be as lasting and useful as the sound teeth . . . sells, by wholesale and retail, dentifrices, tinctures, chew-sticks, mastics, teeth and gum brushes, suitable for every age, complaint, and climate with directions for their use.

The first dental textbook was *The Dental Art, a Practical Treatise on Dental Surgery,* which appeared in 1839, the same year the first dental journal was published. Thirty years later, Doctor James Garretson wrote the first book on dental surgery, *A Treatise on the Disease and Surgery of the Mouth, Jaws and Associated Parts.* However, it wasn't until 1894 that Thomas Weeks, professor of operative dentistry at the University of Minnesota College of Dentistry published what is generally accepted as the first valuable book on dental technique. In 1915 the first orthodontic journal, *International Journal of Orthodontia,* was published, and a year later the first book for dental hygienists, *Mouth Hygiene,* appeared.

Tic Tips

The setting time of zinc oxide-eugenol impression paste may vary due to room temperature and other conditions. However, the setting time may be controlled as follows:

One or two drops of water added to the eugenol part of the paste (usually the darker) and mixed thoroughly before the lighter or zinc oxide part is added will retard the setting time.

R FOR LIVING

Dr. Harold J. Parker—Physical Educator

by Joseph George Strack

One of the greatest contributions made to the game of football during the twentieth century has been made by a dentist—Doctor Harold J. Parker of New York City. Doctor Parker is assistant professor of the Department of Hygiene (physical education), The City College of New York.

A Paul Parker photo
Doctor Harold J. Parker

His contribution can be summed up in the title of a book he has written, *Football for All.* Doctor Parker believes that almost every teen-age boy wishes to play football; that it is possible to provide such opportunities for millions of boys who otherwise would be denied those advantages (because they are not of the "football type" or because of the lack of qualified football coaches and suitable football fields); that it is possible to play football in safety without elaborate uniforms and pads; and that it is feasible to teach the game in regular gymnasium classes—like soccer, softball, speedball, volleyball, and other games.

Doctor Parker began his unique football-teaching program in The City College seven years ago. To date more than 7,000 boys have been taught to play football through his novel methods, a motion picture has been made of his successful teaching techniques, a book for physical education instructors and athletic coaches describing his methods has been published, and junior and senior high schools and colleges throughout the United States, Canada, Mexico, Germany, and Hawaii have installed his program.

As a result of Doctor Parker's teaching techniques—the idea of "football for all" was first suggested by Doctor Frank S. Lloyd, erstwhile head of The City College's hygiene department—thousands

of boys, including even boys with physical handicaps, are getting their chance to play football.

"In every school and college in the country the ratio of boys who play, compared with the number sitting in the stands, is outrageous," he recently told Bob Cooke of the *New York Herald Tribune.* (It is estimated that for every boy who gets to play varsity football there are ten who would like to learn the game but are never given the opportunity to do so.) "By the same token, countless teen-age kids can enjoy this game if given the chance to learn fundamentals. At City, we supply the fundamentals for all. With my students, football is actually a course. We have daily classes and a final examination. The biggest enjoyment for me is to see a kid do something which he heretofore believed was beyond him. Best example of this can be seen when the final exam is staged in the form of a regular game. Not many flunk the course, because they are all so enthusiastic that results at the end of the semester are amazing."

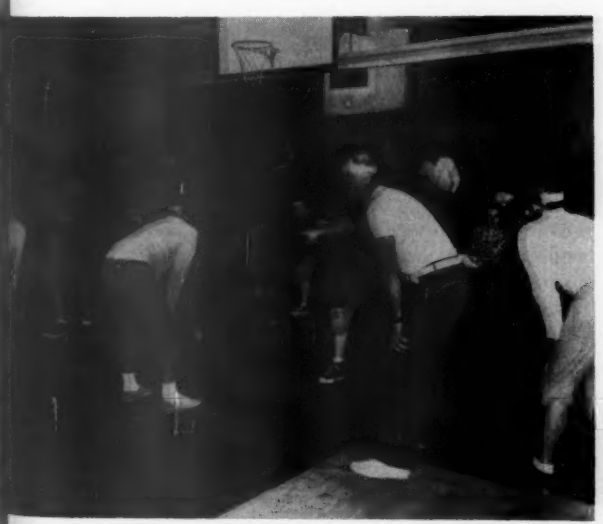
Bob Cooke evaluates Doctor Parker's efforts in the following terms:

> Dr. Parker's good works may have other influences on football if taken seriously by college authorities. According to his plan, development of teams could take place from within, rather than from without, in the future. Under this doctrine, it would no longer be necessary to use that horrid word, "proselyting," because the universities would find themselves equipped for autumn through the medium of natural causes. There would be no need to sprinkle the incoming class with talent prior to enrollment.
>
> Regardless of any far-reaching effect of Dr. Parker's experiments, he can be happy over its stimulating powers at C.C.N.Y.
>
> If the doctor's operation continues to be a success at City, maybe he'll decide to bottle his product instead of releasing it in book form. A sip of Dr. Parker's famous elixir, guaranteed to create football for all, might be an ideal tonic for a number of high-strung, big-time colleges today.

Forty Years of Coaching

"The Professor of Gymnasium Football" has been coaching that game for almost four decades, having started as an unpaid volunteer at his high school in Mount Vernon, N. Y. Service in World War I did not interrupt his hobby, for he coached and officiated with service football teams in the South. Upon resigning his captain's commission in 1921, he served, part time, as coach of football, basketball, and baseball at Concordia Institute, Bronxville, N. Y. In 1922 he accepted an offer to coach those three subjects, at the freshmen level, at City College. Two years later he became Varsity Football Coach, and the following year was made coach for varsity baseball as well. Twelve years later he retired from active coaching, but in 1947 The City College requested him to accept the post of Head Football Coach in an emergency, and he accepted. He stayed on at the college, spending less and less time at his dental offices at 342 Madison Avenue, New York, and today is Assistant Professor of the Department of Hygiene.

Harold Parker is a sincere, frank, friendly person. He says, for example: "I embraced dentistry as a means of earning a living, pure and simple, at the time. Having perfect teeth, I never saw the inside of a dental office until I got my degree." He obtained his D.D.S. degree in 1915 from the Uni-



"The Professor of Gymnasium Football" directs a demonstration by students (of the City College of New York) of football in the gymnasium. This demonstration followed a football clinic for teachers of New York and New Jersey high schools and colleges conducted by Doctor Parker.

Here is a photograph showing Doctor Parker coaching eager players at the gymnasium, explaining how to play "Football for All." No "prof" ever received more attention from a class!

A Paul Parker photo

Doctor Parker at his New York City dental office

versity of Pennsylvania School of Dentistry, where he was a member of Psi Omega. He established his practice in Mount Vernon, N. Y., where he also served as school dentist. In 1917 he was commissioned in the United States Army Dental Corps, becoming an instructor in root resection at the Officers' Training School, Camp Greenleaf, Ga. He is the author of "Root Resection, a Plea for a Broader Field," published in May, 1919, in *Dental Cosmos*. ("That was the first suggestion made by anyone that root surgery might be indicated in cases which had not reached the hopeless stage.")

"Having inherited a perfectionist's trait from one ancestor or another, I found tremendous satisfaction in the various aspects of a general practice, including orthodontics and minor oral surgery," he says.

A Man With Two Vocations

With characteristic bluntness, Doctor Parker explains: "I was by no means a football star at college. In fact, at Pennsylvania I played freshman football and freshman track—and varsity football only as a substitute end. To make it quite clear: I was not a gridiron hero! In fact, I played in only two varsity games and did not qualify for a varsity letter."

He continues: "As the years rolled on while I was coaching at City and the promotions came, I gradually shifted my main emphasis to physical education. Now I find that I am able to devote only one-fourth as much time to dentistry as the average full-time practitioner. In my case I am certain that two vocations are ideal, because in this way I never get too much of either. The switch from one to the other tends to keep my interest at high peak, which results in enthusiasm that is similar to the eagerness with which one approaches a hobby. Like everyone else, I occasionally find that fatigue may dull my interest temporarily in one field or another, yet I find myself more interested in each field than most of my colleagues in those fields!"

His concern for physical education has curtailed his income. "I am quite willing to admit that I might have had a much greater income if I had concentrated on dentistry," he says. "But, while I concede that fact, I must assert another fact: I would not have had as much fun out of life. My philosophy of living has never been based upon a desire to make as much money as possible. If that were so, I should not have given all these years to either dentistry or to physical education. I have wished to earn only sufficient income to take decent care of my dependents—and to make reasonable contributions to the charities I believe in. Those obligations honorably discharged, I have devoted myself to the things which appealed to me—the things through which I could contribute to the welfare of others."

Why "Football for All"?

Why does he promote gymnasium-class football? "The enthusiasm of boys for this fine American game makes it an ideal means of aiding in the development of a well-rounded personality. Football does not produce neurotics. The joys, satisfaction, and rewards, as well as the disappointments, that are encountered, mold character, for those factors anticipate the life-experience of adults—act as counterparts, as it were, of incidents of adult living. Football teaches boys values—living values: courgae, loyalty, spirit, sacrifice, team-work. Sure—there's a lot of corn and ham in the distortion of all this in the hero-type of athlete, the egotist; and in the abusive exploitation of football as a revenue-producing spectacle. But, for most of the youngsters who play it, football is a fun-producing game in which character is formed, a crucible in which personality is developed. All in all, I find in the game an effective format of physical education in which are formed, not only sound bodies, but wholesome personalities as well. No one believes more than I do in the intellectual values that stem from the college classroom, but no one advocates with more conviction the moral values that can grow out of experiences on the athletic field. To adjust to the personalities of others; to learn how to merge one's interests with the interests of a group; and to work enthusiastically, not for one's own goals, but for a common, community purpose—surely this is the basic goal of all education, the fundamental tests of human existence. And obviously football helps us to learn how to do exactly that. That, and that alone, is the fundamental objective of 'Football for All.'"

Part VI

The Removable Partial Denture

CHOICE OF RESTORATION

by Joseph Murray, D.D.S.

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To fix or not to fix is a problem in partial denture construction that often confronts the dental practitioner. Doctor W. J. Whiteman believes there are definite indications for one procedure or the other.

Generally, in the posterior part of the mouth, fixed bridges are preferable where one, two and sometimes three teeth are missing.

If three missing teeth are replaced with a fixed bridge, the buccolingual diameter of the pontics must be reduced and cusps so designed that a minimal lateral stress is produced.

In restoring three lost teeth, if conditions do not indicate a fixed bridge, a precision appliance can be constructed, using buccolingual attachments.

If clasps are used, a bilateral case should be made, with minimal tooth contact on buccal and lingual surfaces, and preferably, with occlusal and contacting surfaces against metal inlays.

Three Types of Fixed Bridges

According to Doctor Whiteman, there are three types of fixed bridges: rigid, broken stress, and cantilever.

The cantilever bridge is indicated mostly in the restoration of the upper or lower lateral incisor tooth. In replacing upper lateral incisors, if the overbite is normal, this type of bridge will render years of service—if the cuspid has a good root with normal attachment. A 20-gage, iridio-platinum wire placed over the marginal ridge of the central incisor will help to prevent any rotation of the cuspid.

With an excessive overbite, a rigid bridge should be constructed, using the cuspid and central incisor as abutments.

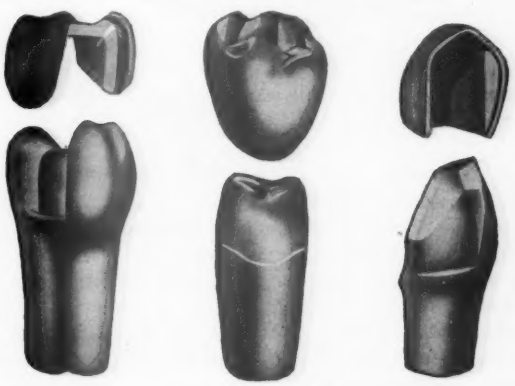
Occasionally, when the cuspid has to be replaced, the cantilever method using the first and second bicuspids as abutments, is permissible, the retainers being three-quarter crowns soldered together.

When the upper central and lateral incisors are lost, careful diagnosis is necessary; the greater the overbite, the more difficult the problem. If a fixed bridge is the solution, both the cuspids and first bicuspids must be used with three-quarter crowns as retainers on all teeth, cuspids and bicuspids being splinted. In some cases, the stress can be broken between cuspid and bicuspid.

At times, the so-called stress-breaker principle is used in fixed bridgework, in which case one of the connectors between the pontic and the retainer is made non-rigid.

This connector should have minimal lateral movement, should overcome occlusal displacement, and should prevent any mesial or distal dislodgement. Obviously, a simple occlusal rest or a pin and tube on the contacting surface of a retainer does not meet these requirements.

The stress-breaking principle should not be used on long-span anterior or posterior bridges, if the



abutments can be made parallel. Moreover, it is contraindicated when one of the abutments is loose.

In the case of an anterior abutment having opposing occlusion, while the pontic and posterior abutment have an occluding tissue-borne partial denture, a rigid bridge should be constructed.

Abutment preparations should offer maximal strength and stability with minimal destruction of tooth structures. Bridge retainers are: intracoronal (inlay); extracoronal (cast crown, three-quarter crown); and radicular or Richmond crown.

Intracoronal retainers are primarily indicated in short-span bridges and, where used, the stress should be broken. Their use is contraindicated where three teeth are missing.

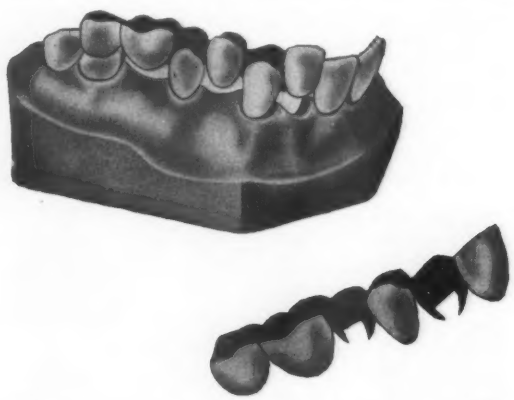
According to Doctor S. D. Tylman, teeth tipped

out of position beyond 24 degrees, as a rule should not be used for bridge abutments, because the vertical stresses on the bridge will not be transmitted in the direction of the long axis of the tooth, resulting only in further periodontal destruction.

As for Doctor A. C. Young, he makes two clinical examinations—first without roentgenograms and study models; a second, with them, including vitality test. He says there are cases in every practice in which the local mouth factors indicate a fixed appliance, but for which a removable one is constructed because of nervous afflictions or lack of cooperation by the patient.

In treatment planning, one factor usually stands out, so that a decision is easy. At other times, conflicting factors must be analyzed very carefully.

After checking the general factors, age, sex, personal hygiene, health and type of patient—and finding that one or more of these is a controlling



factor—a fixed or removable appliance is decided upon accordingly.

The size and shape of the teeth themselves are very important. Short or extremely conical roots, rule out tooth-borne stresses unless distributed over many teeth. Other factors are mobility, bony support, roentgenographic study of the periodontal membrane, the number and location of the remaining teeth, and the length of the span or spans.

Generally, the fixed restoration is indicated only in the short span, although Doctor Young suggests that there is no contraindication to its use in longer fixed bridges if all the other factors are studied and if the buccolingual width is related to the length of the bridge.

In cases with a short vertical height, many fixed bridges should not be attempted. In short bite cases or in very short spans, self-cleansing is difficult. If the question of maintaining proper mouth hygiene arises, a removable appliance is indicated.

Where there are two consecutive missing teeth, such as the first and second bicuspids, it is more advisable to use a fixed rather than a removable bridge, providing of course that the abutment teeth are healthy, advises Doctor J. M. Schweitzer. He claims that the ideal case for the two-tooth fixed bridge is one where the abutment teeth are vital and sound, the periodontal structure in good condition, and no other teeth are missing in the mouth.

Should the opposing side present missing teeth, especially where there are no posterior abutments (free-ending saddle), then a removable restoration is indicated.

Internal Attachment Bridge

A satisfactory method of replacing two missing posterior teeth is the internal attachment bridge. Three surface inlays, three-quarter crowns or full crowns are the abutments of choice. This type of replacement is impracticable in short-bite cases where a normal-size attachment cannot be used. (Doctor Alexander Leff describes a method of constructing a precision attachment in the lingual aspect of the pontic in such instances.)

Another excellent method for replacing two posterior teeth is the spring lock bridge devised by Doctor F. G. Neurohr, which utilizes the principles of spring release in combination with lug seats. The bridge has neither clasps nor internal attachments. It is passive when in position until masticatory forces are applied. Releasing the spring readily loosens the bridge. Doctor Neurohr's principles can be applied advantageously, both unilaterally and bilaterally, in removable restorations.

Where three consecutive teeth are missing, bilateral removable bridgework is the replacement of choice, says Doctor Schweitzer.

For example, should the two bicuspids and the first molar be replaced by a fixed bridge, it would be hazardous, indeed! The excessive leverage created by the large span would loosen the second molar and cuspid abutments.

If two molars and a bicuspid are missing, the danger from lateral strain becomes even greater.

In this case, if fixed bridgework must be resorted to, then multiple abutments are the only solution. If possible, full coverage (castcrowns or veneers) is indicated. Moreover, the pontics should have a small buccolingual diameter. In this instance, a fixed restoration will be more successful if it opposes a denture.

Frequently, the temptation is great to construct a cantilever fixed bridge where an upper first bicuspid and the three molars are missing on the same side (an interrupted bridge with one free end), leaving the cuspid and second bicuspid in position.

Often, a practitioner will supply these teeth with three-quarter crowns, or perhaps place a full crown on the second bicuspid, replacing two teeth only, a first bicuspid and a first molar pontic, the latter having no distal attachment. Again, splinting the

cuspid and lateral incisor would provide better and stronger anchorage.

Better yet would be a removable bilateral bridge, because the bicuspid abutment will invariably become traumatized and mobile. Every so often, the cuspid will loosen too, because of the constant jarring by the movement of the second bicuspid.

Unilateral Removable Bridge

The unilateral interrupted removable bridge is time and again used to replace missing posterior teeth. It may be retained by clasps, precision attachments or the spring lock.

An example of a general indication for its use is a case where both bicuspids and a lateral incisor are missing from the same side.

This bridge has a bar which runs along the lingual mucosa of the natural intervening tooth, and which is constructed low enough so as not to impinge on the gingivae of the teeth.

In this instance, the first molar and cuspid are supported by clasps or other forms of attachment, and the lateral incisor is carried by a bar which passes around the lingual side of the cuspid. The lateral incisor carries a lug which rests on the lingual surface of the central incisor.

Doctor Schweitzer defines the cantilever removable bridge as one that has one end suspended as a free end with no natural tooth to support it.

Where there are not posterior abutments, bilateral support is indicated.

Where three molars are missing consecutively, this popular clinician believes the unilateral cantilever bridge can be used. Utilizing the two bicuspids as abutments, crib clasps with indirect retention, internal attachments and spring lock devices are often employed. To insure greater strength, the bicuspids are usually soldered together.

The free-ending saddle is more often used in the mandible, where its weight tends to keep it in position, rather than in the maxilla, where the distal extension partial may drop because of gravity.

In order to prevent tipping of the abutment teeth, the posterior cantilever removable bridge should be periodically examined to determine the necessity for rebasing.

With bilateral removable bridgework, precision attachments, clasps or the spring wire lock may be used as the means of retention.

The Precision Attachment and the Clasp

At this time, it might be appropriate to compare the precision attachment with the clasp and to point out the merits and faults of each.

As a rule, the precision case is more expensive to construct, although markedly superior, esthetically, to the clasp. It allows slight vertical and lateral play which is stimulating to the surrounding tissue.

Precision bridgework is more difficult to adjust, is more costly, and requires greater skill to repair. It is contraindicated where the abutment teeth are too short or all tipped forward. In the former case it is almost impossible to make a normal-sized attachment; in the latter, the tongue can push the bridge out of position too readily.

Also, in the case of the lower lingual bar, distal extension case (no posterior abutments) with precision attachments, the forces of occlusion will cause a tipping force on the posterior segment, causing abnormal pull on the abutment teeth.

Tipping and bending of these teeth is not nearly so great when clasps are used.

The dual impression technique described in the October issue of Tic compensates for this leverage in free-ending saddles.

On the other hand, the clasp often causes mechanical abrasion leading to tooth decay, unless it rests on metal, like a gold crown.

Moreover, it breaks more often than the internal attachment and is frequently bent out of correct position by the patient upon insertion or removal of the bridge.

Although generally easier to handle than the precision attachment, this advantage is nullified by the clasp's more frequent breakage.

Unless the clasp has a definite lug, the bridge may settle under the forces of mastication, exerting a leverage on the abutment tooth and causing gingival impingement.

When considering clasps for upper partial bilateral replacements, the plain flat bent clasp on a posterior cast crown with a definite occlusal lug has proved very practical, says Doctor Schweitzer. However, the same clasp on the natural enamel surface tends to increase susceptibility to decay.

Full cast crowns should always cover teeth that are clasped in the third molar area. As the anterior part of the mouth is approached, abutment teeth should at least have multiple-surfaced inlays. This prevents abrasion and decay, and serves as a seat rest or stop for the lug.

Lug seats should be definite, tapered cervically, and slope slightly toward the center of the tooth.

Clasps should not snap into position, lest the resulting trauma injures the abutment teeth. Wire clasps, because they cover less tooth structure, are the least harmful.

When internal or precision attachment bridgework is contemplated, it is advisable to have a bite adequate to permit the use of long attachments.

In lower cases with free-ending saddles, a double anterior bar is often helpful in preventing tipping of the posterior heels of the saddle.

Usually, settling of the case requires rebasing of the saddle areas; otherwise, the anterior continu-

ous clasps so frequently used in double bars will act as an orthodontic appliance, traumatizing the teeth and resulting in their eventual loss.

If at all possible, (sometimes the upper tuberosity interferes), the posterior heel of the lower free saddle end should, for better stability, be extended to the pad of tissue posterior to the retromolar fossa at the beginning of the ascending ramus.

Should this retromolar pad be soft and flabby, then it is not a tissue-bearing area and cannot be utilized.

In the event that an upper and lower restoration are needed in the same mouth, then the precautions just mentioned are not only mandatory but special care must be taken to obtain a balanced occlusion.

As a rule it is not advisable to use a combination of clasps and internal attachments in the same restoration. Since the precision bridge can be removed in one direction only, while the clasps allow a little more freedom, the tendency on the part of the patient to grip the clasp first, might tip the appliance. The result would be damage to the restoration, and especially to the teeth with the internal attachments.

Even with the finest design and the best of care, with rare exceptions clasps will cause abrasion and food impaction, with resultant decay; while precision attachments, after the cases settle, cause twisting, intrusion and mobility of the abutment teeth, admonishes Doctor Schweitzer.

Cardinal Principles of Construction

According to Doctor Neurohr, partial dentures should allow the forces of mastication to be equally distributed and the tissues to function without being subjected to unusual pressure or tension.

He recommends the joining of all tooth-bearing parts to form one entity,—all tissue-bearing parts, another—then soldering the entities together.

Tooth and tissue-bearing parts are passive, because impressions are taken with the tissues at rest and because the attachments are of a special type.

Doctor Neurohr illustrates the replacement of a lower second bicuspid and first molar by using an inlay with an insertion pin lock in the first bicuspid and a spring wire lock catching under a ledge in the second-molar inlay.

The rests take the burden of mastication; the insertion pin lock prevents the anterior end of the bridge from being dislodged; while the spring wire lock does not allow displacement of the posterior end.

A U-shaped lock in the base of the inlay rest prevents the molar from being moved distally, by the spring wire; while the 30-degree angle of the floor, with the insertion pin lock in the premolar rest, retains that tooth in position.

Thus by adhering to the cardinal principles of construction, even distribution of force, passivity and elimination of lateral pressure, the health of the ridges and periodontal structures is maintained.

The Mouth as a Unit

Doctor L. W. Thom advises that fixed denture prosthetic appliances be placed only on strong, healthy foundations, surrounded by sound investing tissues; and that teeth selected for use as abutments be free from periapical and periodontal diseases. (These principles hold equally true for removable bridgework).

He states that latter day trends in oral health service are to consider mouth conditions as a unit, and that treatment and restoration be done to rehabilitate the whole chewing mechanism.

Like many noted clinicians, Doctor Thom believes that the full cast crown is the strongest abutment known at present and is adaptable for use on any tooth in the mouth.

On many occasions, both removable and fixed bridgework are employed as splints and stabilizers for loose teeth. Splinting distributes occlusal stresses and immobilizes these weak teeth, giving them the rigidity they would have with a good alveolar support.

Precious metal and chrome-cobalt-nickel alloys have often been used as temporary splints because of their rigidity and ease of removal for cleaning.

To improve esthetics, acrylic resin which matches the teeth to the prepared labial surface of the metal splint can be applied.

Acrylic Resin Splints

Doctors D. H. Coelho and M. L. Warren report that transparent acrylic resin splints have been used by them with some success; and the combination of acrylic with a metal bar as employed by Doctor Sidney Sorrin has been most satisfactory.

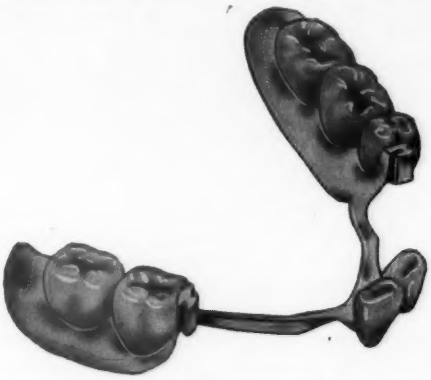
Stationary or fixed splinting is the fixation of two or more teeth by gold castings which are joined with solder and cemented into place. According to Doctors Coelho and Warren, these castings must be of the full or three-quarter crown type similar in every respect to bridge abutments.

They caution that in order to use the three-quarter crowns, the teeth to be splinted should present good vertical length (retention is dependent on long grooves). Where short teeth are to be splinted, full crowns, with or without veneers, are indicated.

Although the pinledge attachment, with slight variations, is still a usable device for splinting in the anterior portion of the mouth, its employment for that purpose should be evaluated with caution, because:

1. The forces of mastication may unseat the tooth from the casting, due to the uncovered incisal edge.
2. The proximal margins do not extend into cleansible areas, thereby aggravating a usually unsanitary mouth condition.

An understanding of the principles of parallelism is of prime importance in the construction of mul-



tiple abutment fixed bridges and splints. All slices, cuts, grooves and pits must be prepared with this concept in mind to insure a successful restoration.

Full or Partial Dentures?

At times, the dentist's dilemma is: Full or partial denture? Accordingly, Doctor C. H. Schuyler suggests that maxillomandibular relationship or abnormalities of occlusion may be the controlling factor in the indications for or against restoration with a full or partial denture.

He feels it justifiable, in cases of Class III occlusion (prognatism) to go to extremes to retain upper teeth needed as abutment supports for a removable partial denture, since the full upper restoration presents serious esthetic and functional problems.

In cases where a Class II occlusion (overjet or horizontal overbite) exists, patients have the greatest discomfort with full lower dentures.

When such occasions arise, Doctor Schuyler advocates the retention of lower anterior teeth as abutment supports for the removable partial denture to be.

NEXT MONTH: PART VII

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HOLIDAY RUSH

My patients and I invariably
On a certain matter always agree:
There'll be no dental dates to keep
During the holidays, for a heap
Of precious time we'll spend just living
High, enjoying our Thanksgiving!
With forethought for the apple cobbler,
Pumpkin pie and turkey gobbler,
Anticipating we'll need rest
To fortify us for the fest',
We fix a schedule well ahead
But somehow, somewhere, are misled!
For come November twenty-five,
All the folks who can't survive
One more day without that filling
Come rushing in, though once unwilling,
This is the bone this dentist picks
With them November twenty-six!

Helen Harrington

FOR YOUR RECEPTION ROOM

GUPPIES

by Kathleen White Miles

They helped my parents to relax,
But now they boost my income tax.

That, in so many words, is the plaint of Doctor W. K. Shepardson, Warsaw, Misouri, dentist, but he says it with a smile.

Because what started back before World War II as a simple effort to relax nervous patients, has developed into four tanks and twelve gallon jars full of relaxing hobby for the busy Ozark dentist—and a small sideline business besides.

Doctor Shepardson's hobby is guppies.

And he's found that even the most nervous paroom to find four large aquariums filled with scores of the brilliantly hued little tropical fish gaily darting through the water.

"It works, and it works beautifully," he says, "with everyone from my youngest child patient up to my oldest patient, a seventy-five-year-old man from the rock-ribbed Benton County hills who's 'a-feared of them new-fangled doctors' and who has been practically carted to the office, for the first time in his life, by a son."

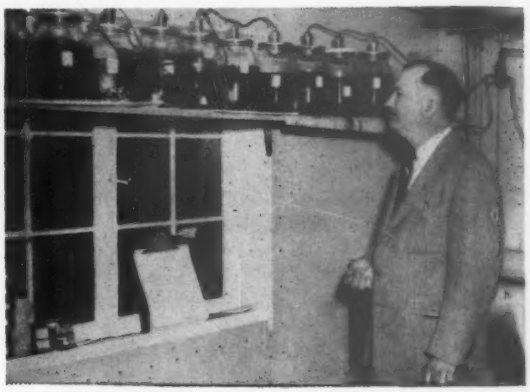
Back in 1941, when Doctor Shepardson first hit upon the idea of guppies as a relaxer, there was just one small container of the fish in his waiting room. At that time the six-foot, husky dentist, who went to school at the University of Kansas City Dental College, didn't pay much attention to them except for the patient-interest factor.

But when he returned from several years' service overseas, where he served as a major in the medical corps, he decided he needed a hobby. The miniature fish proved to be the answer.

And now, besides the four large glass aquariums in his office, he has several more in the basement of his home, where he also raises food for the fish.

"I never have to change the water in the aquariums," he says, "because it's kept fresh by a small air-compressor and filters. And a thermostat keeps the temperature at a constant 78 degrees."

At the present time, he is specializing in the black, veil-tail type of guppy, which retails from five to ten dollars a pair.



Doctor Shepardson in his "guppy basement."

And when he has surplus line-bred fish, he sells them to Kansas City dealers, transporting them from his Lake of the Ozarks town in thermos jugs, so the proper water temperature can be maintained.

Doctor Shepardson's basement discloses that the proper breeding and rearing of these tropical fish for exhibition or for market is no minor activity.

Probably the first thing that strikes the observer is the row of twelve one-gallon jars full of water, set up on a chin-high shelf. In each jar, swimming all around by itself, is a female guppy, which, unlike any other well-known fish, gives birth to live young. A light bulb in the top of each jar provides the proper temperature for the water.

"Record birth for a female," says Doctor Shepardson, "is about 176, but the most young these females have produced is forty-seven."

And what do guppies eat? Well, here is another task for dentists who want to raise a tankful for their waiting rooms. The food includes a menu of white worms, Daphina, and the eggs of brine shrimp.

Guppies especially enjoy white worms. Doctor Shepardson purchases the culture, which he places in a flower pot filled with peat moss and black earth. Bread and milk feed the culture, and when the white worms reach an inch in length they are ready for consumption by adult guppies.

Doctor Shepardson also purchases the brine shrimp eggs, which he places in a gallon of water. The eggs hatch in forty-eight hours and are used to make a sea-water for feeding the baby guppies.

Both young and old guppies eat the concoction which is known as Daphnia. This delicacy is a powder made from water fleas!

"All of this keeps me pretty busy," says Doctor Shepardson, "because when I'm not working in my dental office, I always find there are scores of things to be done down in my 'guppy basement.'"

He summarizes the whole thing with this observation: Although I started out on the project to help nervous patients to relax, I've found out that it relaxes me most of all."